

Remarks

The Office Action dated April 25, 2005, and made final, has been carefully reviewed and the following remarks have been made in consequence thereof.

Claims 1-19 are pending in this application. It is respectfully submitted that the pending claims recite allowable subject matter.

The rejection of Claims 1-19 under 35 U.S.C. § 103(a) as being anticipated by Okayasu et al. (U.S. Patent 6,364,692) in view of Nakamura (U.S. Patent 6,558,178) is respectfully traversed.

Okayasu et al. describe a connector including a female housing (10) and a male housing (20). A seal (30) is located on the front surface of the female housing and is held in place by a seal holder (40). The male housing includes a main body (21) and a receptacle (22) extending from the mating surface of the main body. A plurality of L-shaped contact tabs (23) extend into the receptacle. The female housing includes an accommodating portion (11) that has a plurality of contact cavities (13). A receptacle cover (12) surrounds the accommodating portion. A rubber ring (19) extends over a circumference of the accommodating portion to provide sealing between the male and female housings. The seal holder holds the seal against the front end of the accommodating portion. The contact tabs penetrate the seal when the male and female housings are joined. The seal consists of a gelatinous or elastic material.

Nakamura describes a connector (1) including an inner housing (3) fitted into an outer housing (2). A female terminal fitting (20) is housed within a cavity (5) formed within a terminal housing member (4). A concave attachment groove (13) is formed on the circumference of an outer wall face (4A) of the terminal housing member (4). A sealing ring (14) is fitted into the attachment groove.

Applicant respectfully submits that the Section 103 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it

would have been obvious to one of ordinary skill in the art to modify Okayasu et al. according to the teachings of Nakamura. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention absent some teaching, suggestion, or incentive supporting the combination. To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Okayasu is cited for teaching a connector having an inner shell, an outer shell, and a seal that is pierced by contacts in a mating connector. Nakamura is cited for teaching a connector having an inner shell with a channel on an outer perimeter in which a seal is mounted. The Okayasu and Nakamura connectors are so different in design that they do not suggest their combination. The Office Action asserts that the formation of a channel on the outer perimeter of the inner shell of the Okayasu as taught by Nakamura "would allow the seal to be attached to the connector without increasing the connector size". However, there is nothing in Okayasu that suggests that the seal (19) is in any way determinative of the size of the connector, nor is there a suggestion that the size of the connector presents a problem. Further, the seal in Okayasu is positioned at the base of the receptacle cover (12) such that a channel is not needed to keep the seal in place. Due to the thickness of the material under the seal at the seal location, significant redesign of the Okayasu connector would be required to incorporate a seal channel.

Finally, neither Okayasu nor Nakamura, considered alone or in combination describe or suggest a channel positioned between a shoulder on the inner shell and the wire receiving end as recited in claims 1 and 10. Since there is no teaching or suggestion in the cited art of all of the claimed limitations, the Section 103 rejection appears to be based on a hindsight reconstruction

in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants respectfully request that the present Section 103 rejection be withdrawn.

Claim 1 recites a connector, including “a housing having a mating face configured to join a mating connector, said housing comprising an outer shell and an inner shell disposed within said outer shell; wherein said inner shell includes a contact receiving end and a wire receiving end, and a shoulder on an outer perimeter thereof, said inner shell further including a channel on an outer perimeter thereof between said shoulder and said wire receiving end, said channel receiving a seal; a contact held in said housing proximate said mating face; and a gel material provided on said housing between said contact and said mating face, said gel material including a self-sealing slit formed in said gel material, said slit being configured to accept the mating connector and, when the mating connector is removed, said slit closing to seal said contact”.

It is respectfully submitted that neither Okayasu et al. nor Nakamura, considered alone or in combination, describe or suggest the apparatus recited in claim 1. Specifically, neither Okayasu et al. nor Nakamura, considered alone or in combination, describe or suggest a connector including an inner shell having a shoulder on an outer perimeter thereof, and including a channel on an outer perimeter thereof between the shoulder and the wire receiving end, the channel receiving a seal. Rather, Okayasu et al. describe a seal over an accommodating portion that abuts the base of a receptacle cover, and Nakamura describes an attachment groove for a seal on an outer perimeter of the inner shell. Neither Okayasu nor Nakamura describe a shoulder on the inner shell.

Accordingly, claim 1 is submitted to be patentable over Okayasu et al. in view of Nakamura.

Claims 2-9 depend from independent claim 1. When the recitations of claims 2-9 are considered in combination with the recitations of claim 1, Applicant submits that dependent claims 2-9 likewise are patentable over Okayasu et al. in view of Nakamura.

With particular regard to claims 7 and 8, both of which recite, among other recitations, “a terminal position assurance (TPA) member mounted over said contact”, it is respectfully submitted that neither Okayasu et al. nor Nakamura, considered alone or in combination, describe or suggest the apparatus recited in claims 7 and 8. Rather than a TPA member, Okayasu describe a seal holder (40) that is secured to the accommodating portion (11) while locking pieces (14) retain the terminals in the cavities (13). Neither Okayasu et al. nor Nakamura make any mention of terminal position assurance features.

Accordingly, Applicant respectfully submits that claims 7 and 8 also are patentable over Okayasu et al. in view of Nakamura.

Claim 10 recites connector assembly including “a plug holding a plug contact; and a receptacle including a mating end and a wire receiving end, said receptacle holding a receptacle contact, said receptacle having a gel material provided on said receptacle over a face of said receptacle, said plug contact piercing said gel material when said plug and receptacle are joined, said gel material re-sealing when said plug contact is removed; wherein said receptacle includes a shoulder between said mating end and said wire receiving end, said receptacle further including a channel thereon between said shoulder and said wire receiving end, said channel receiving a seal”.

It is respectfully submitted that neither Okayasu et al. nor Nakamura, considered alone or in combination, describe or suggest the apparatus recited in claim 10. Specifically, neither Okayasu et al. nor Nakamura, considered alone or in combination, describe or suggest a receptacle that includes a shoulder between a mating end and a wire receiving end, and a channel thereon between the shoulder and the wire receiving end, the channel receiving a seal. Rather, Okayasu et al. describe a seal over an accommodating portion that abuts the base of a receptacle cover, and Nakamura describes an attachment groove for a seal on an outer perimeter of the inner shell. Neither Okayasu nor Nakamura describe a shoulder on the inner shell. No seal channel is formed in the accommodating portion.

Accordingly, claim 10 is submitted to be patentable over Okayasu et al. in view of Nakamura.

Claims 11-19 depend from independent claim 10. When the recitations of claims 11-19 are considered in combination with the recitations of claim 10, Applicant submits that dependent claims 11-19 likewise are patentable over Okayasu et al. in view of Nakamura.

With particular regard to claims 16 and 17, claim 16 recites, among other recitations, “a terminal position assurance (TPA) member mounted over said receptacle contact”, and claim 17 recites, among other recitations, “a terminal position assurance (TPA) member, said gel material being sandwiched between said TPA member and said dielectric member”.

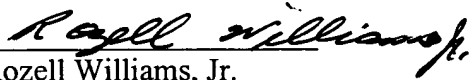
It is respectfully submitted that neither Okayasu et al. nor Nakamura, considered alone or in combination, describe or suggest the apparatus recited in claims 16 and 17. Rather than a TPA member, Okayasu describe a seal holder (40) that is secured to the accommodating portion(11) while locking pieces (14) retain the terminals in the cavities (13). Neither Okayasu et al. nor Nakamura make any mention of terminal position assurance features.

Accordingly, Applicant respectfully submits that claims 16 and 17 also are patentable over Okayasu et al. in view of Nakamura.

For at least the reasons set forth above, Applicant respectfully requests that the Section 103 rejection of Claims 1-19 be withdrawn.

In view of the foregoing remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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